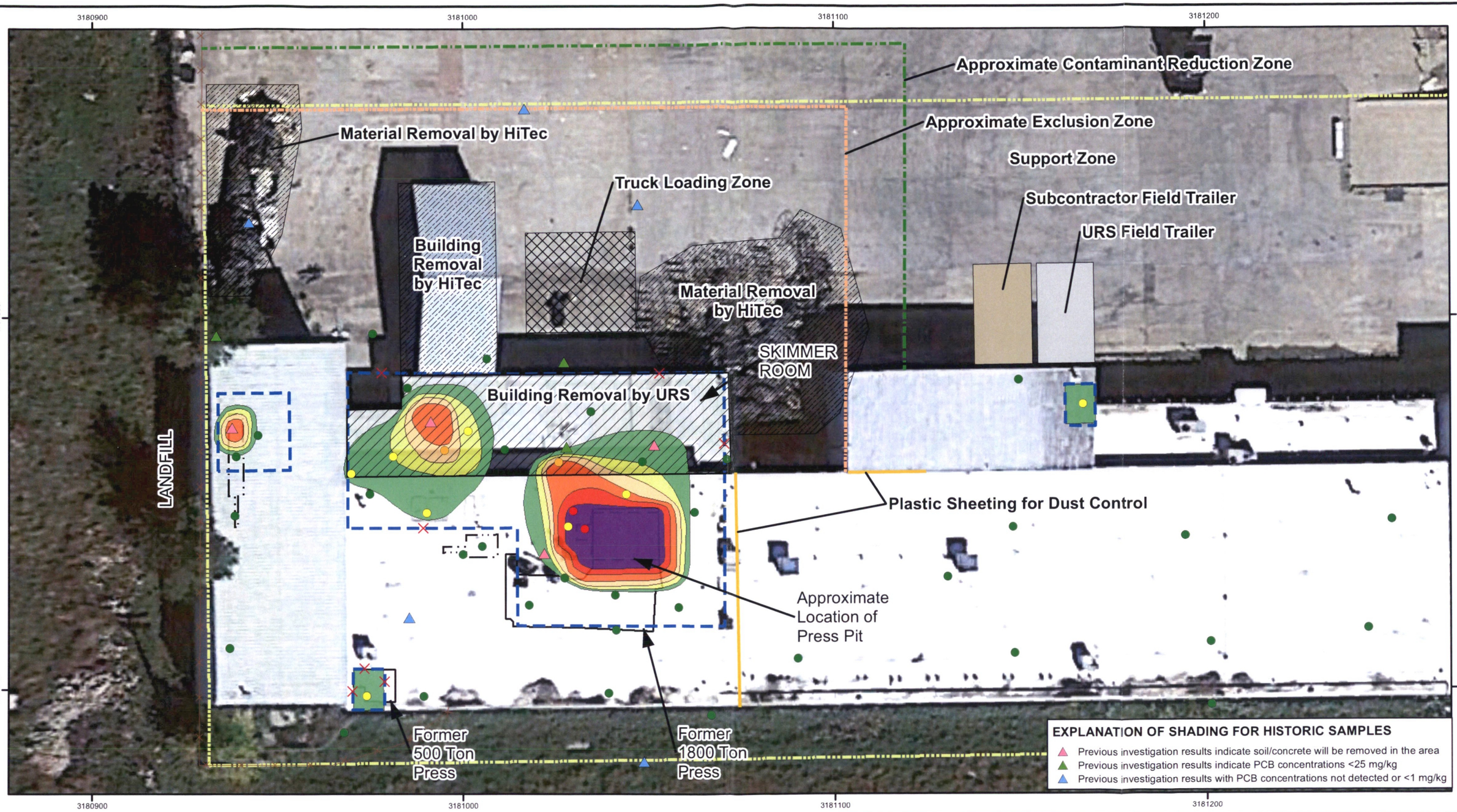


Soil/Concrete Boring Locations
- No Exceedance of PCB Cleanup Levels
- PCB Exceeds at <2 ft bgs
- PCB Exceeds at >2 and < 4 ft bgs
- PCB Exceeds at >4 ft bgs
- Approximate Exclusion Zone
- Approximate Contaminant Reduction Zone

- Proposed Concrete Confirmation Sample Location
- Site Boundary
- Former Press Footprint
- Press Pit
- Unidentified Feature
- Fence

- Truck Loading Zone
- Material or Building Removal by HiTec
- Building Removal by URS
- Approximate Saw Cutting Extent

Approximate Extent of Removal Depths (ft bgs)
- 1
- 2
- 3
- 4
- 5
- 6

Map Projection:
State Plane Feet, Colorado Central Zone, NAD83.
Aerial Photo Basemap Source:
Google Earth, 10/6/2013 and
Copyright 2013 Esri, DeLorme, NAVTEQ, TomTom.

25 0 25 Feet
1 inch = 25 feet

N W E S

URS

Figure 4 ANTICIPATED REMOVAL AND DEMOLITION AREAS

MOLINE STREET PCB SITE
AURORA, COLORADO

PROJECT NO.	DRAWING NO.	DATE
41569671	Fig4_AntRemovalDemo.mxd	5/12/14

Appendix A – Stage I Summary Technical Memorandum
is provided on CD only

Appendix B – Removal Action Specifications and Construction Drawings are provided on CD only

Table of Contents

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS

ACM	asbestos containing material
ARAR	Applicable or Relevant and Appropriate Requirement
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHWR	Colorado Hazardous Waste Regulations
Clean Harbors	Clean Harbors Environmental Services Inc.
EPA	United States Environmental Protection Agency
Hi-Tec	Hi-Tec Plastics, Inc.
IDW	investigation derived waste
OSC	On-Scene Coordinator
PCB	polychlorinated biphenyl
PPE	personal protection equipment
RCRA	Resource Conservation and Recovery Act
Site	Moline Street PCB Site
SWPPP	Storm Water Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TDCC	The Dow Chemical Company
TSCA	Toxic Substances Control Act
URS	URS Corporation
VOC	volatile organic compound
yd^3	cubic yards

This page intentionally left blank

1.0 INTRODUCTION

URS Corporation (URS) prepared this Transportation and Disposal Plan as Appendix C of the Stage II Removal Action Work Plan (URS 2014) on behalf of The Dow Chemical Company (TDCC). This Transportation and Disposal Plan describes how waste material will be managed and transported to off-site disposal facilities during the implementation of the removal action for the Moline Street polychlorinated biphenyl (PCB) Site (Site) located in Aurora, Colorado. The Administrative Settlement Agreement and Order on Consent (Settlement Agreement) for the Site was effective January 30, 2014 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (reference CERCLA Docket No. CERCLA-08-2014-0002).

Clean Harbors Environmental Services Inc. (Clean Harbors) will provide the transportation and disposal of the Site waste material. Clean Harbors will work directly under contract to TDCC and will provide an on-Site waste coordinator, as necessary, to work with URS and URS' subcontractor during waste material loading by URS' Subcontractor. The activities described in this Transportation and Disposal Plan will be performed by URS, URS' subcontractor, and Clean Harbors.

This Transportation and Disposal Plan provides the following information:

- Section 1 Project Overview – provides the Site background and previous investigations.
- Section 2 Applicable Guidance and Regulations –lists guidance documents and regulations reviewed for this plan.
- Section 3 Waste Streams and Characterization – describes the waste streams from the Stage I investigation and the Stage 2 removal action.
- Section 4 On-Site Waste Handling –describes loading procedures, waste manifests, and noise management.
- Section 5 Description of Transport – describes routes between the Site and disposal facility.
- Section 6 Required Notification Before Transport – lists the notifications required by the Settlement Agreement.
- Section 7 Clean Harbors Policies and Transportation Plan – lists the sections of the Clean Harbors Transportation Plan .
- Section 8 Record Keeping –lists the documentation to be prepared for the Removal Action Completion Report.
- Section 9 References

2.0 PROJECT OVERVIEW

This section briefly summarizes the Site removal action activities which include building demolition, concrete removal, and soil excavation. The Stage II Removal Action Work Plan, which this Transportation and Disposal Plan appends, provides greater detail on the activities at the former magnesium extrusion facility (Site), located in Aurora, Colorado near the southwest

corner of the intersection of Smith Road and Moline Street (Figure 1). The Site covers approximately 1.8 acres and includes a building with an address of 3555 Moline Street, as shown in Figure 2.

The property and building where the removal action work will be performed (i.e., the Site) are currently owned by Hi-Tec Plastics, Inc. (Hi-Tec). Hi-Tec's current operations take place in the building located directly north of the Site. Hi-Tec uses the concrete access pad south of their current operational building and north of the Site buildings where the work will take place. Hi-Tec also uses the north and south gates located on the east site of the Site for access to the south side of Hi-Tec's operational building. Hi-Tec will continue their normal business operations in the area north of the Site throughout this project. They typically operate 24 hours per day, 7 days per week.

3.0 WASTE STREAMS AND CHARACTERIZATION

This section describes the types of waste streams and associated waste characterization for the Site removal action.

3.1 Waste Streams

Solid and liquid waste streams will be generated during the removal action. The majority of the waste will consist of PCB-contaminated soil along with PCB-impacted concrete and other building demolition debris. Smaller amounts of other investigation-derived waste (IDW), including soil, liquid, disposable sampling equipment, and personal protective equipment (PPE) will also require disposal. An asbestos building inspection was conducted during the Stage I field investigation and asbestos containing materials (ACM) were not identified in the building to be demolished.

The following table shows the waste streams and approximate quantities:

	Investigation (Stage I[1])		Removal Action (Stage II[2])	
	Waste Type	**Approximate Quantity**	**Waste Type**	**Approximate Quantity**
Solid	Concrete	<1 cubic yard	Concrete	490 tons
	Soil	<1 cubic yard	Soil	260 tons
	Disposable sampling equipment (acetate sleeves)	<1 cubic yard	Building Debris	50 cubic yards
	PPE (e.g. Tyvek, nitrile gloves)		Disposable sampling equipment (e.g. soil scoops)	<1 cubic yard
			PPE (e.g. Tyvek, nitrile gloves)	<1 cubic yard
Liquid	Decontamination Water	30 gallons	Decontamination Water	To Be Determined
	Small amount of organic waste[3] from field test kit use	2 gallons	Water pumped out of excavation[4]	To Be Determined
			Collected stormwater[5]	To Be Determined

Notes:

[1]Stage I investigation activities were conducted in March 2014.

[2]Stage II removal action activities will be conducted in the summer of 2014.

[3]Organic waste from field test kit use includes: sulfuric acid, nickel nitrate in water, potassium nitrate in water, sodium dispersed in oil, naphthalene in diglyme solution, butly diglyme in water. MSDS states disposal as organic waste in accordance with applicable federal, state, and local environmental regulations.

[4]It is anticipated that precipitation will be kept out of excavation; however, if needed, water will be removed from excavation and managed with other liquid waste.

[5]TDCC anticipates that stormwater will not contact PCB-containing material; however, if needed, captured stormwater will be managed with other liquid waste.

3.2 Waste Characterization

URS collected waste characterization soil samples during the Stage I field investigation from the areas identified as likely having the highest PCB concentrations. The waste characterization soil samples from the Stage I field investigation were analyzed for PCBs, and Toxicity Characteristic Leaching Procedure (TCLP) for Resource Conservation and Recovery Act (RCRA) 8 Metals (arsenic, barium, chromium, cadmium, mercury, selenium, lead, silver), and volatile organic compounds (VOCs).

Based on the Stage I field investigation data, the impacted soil will be classified as PCB-contaminated but non-hazardous. Attachment A includes the TCLP analytical results. Waste characterization for the Stage I and II concrete and building debris material will not be conducted because this waste material will be conservatively disposed of at the same facility as the soil. If additional waste characterization samples are requested by Clean Harbors, URS will collect them during the removal action and results will be reviewed by URS and Clean Harbors as soon as possible to update waste profiles, as necessary.

Liquid waste from the investigation or removal action will be incinerated due to the possible presence of PCBs in the liquid. Because incineration is the most conservative approach for liquid waste disposal, waste characterization samples for the liquid are not necessary.

4.0 APPLICABLE GUIDANCE AND REGULATIONS

URS and TDCC reviewed and considered several waste management policies, guidance documents, and regulatory requirements while preparing this Transportation and Disposal Plan. IDW and waste material generated during the Site activities will be managed in accordance with United States Environmental Protection Agency (EPA) guidance and Colorado regulations as outlined in this plan. Regulations found in Title 40 of the *Code of Federal Regulations* (CFR) Part 260 through Part 272 and EPA guidance (EPA 1991) require that IDW management comply with applicable or relevant and appropriate requirements (ARARs) to the extent practicable considering the urgency and scope of the action. IDW that is transported off site must comply with RCRA and Colorado Hazardous Waste Regulations (CHWR) off-site disposal policy. For the purposes of this Transportation and Disposal Plan, IDW and waste material from the removal action will be combined and disposed of together. Below are the guidance documents and regulatory requirements for the waste material transportation and disposal:

- Resource Conservation Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- Toxic Substance Control Act (TSCA) (PCB Spill Cleanup Policy and Disposal of PCBs)
- State of Colorado Hazardous Waste Regulations (CHWR)
- *Management of Investigation-Derived Wastes During Site Inspections* (U.S. Environmental Protection Agency [EPA], 1991)
- *Guide to Management of Investigation-Derived Wastes* (EPA 1992)
- State of Colorado's *Interim Final Policy and Guidance on Management of Investigation Derived Waste (IDW) at RCRA Facilities* (State of Colorado Department of Public Health and Environment [CDPHE] 1993).
- U.S. Department of Transportation regulations
- Colorado Department of Transportation regulations
- Utah Department of Transportation regulations

5.0 ON-SITE WASTE HANDLING

URS' demolition/excavation subcontractor (Subcontractor) will conduct building demolition, cut and remove impacted concrete, excavate impacted soil, and directly load these materials into lined roll-offs, trucks, or stage the material in temporary stockpiles. If soil is staged in stockpiles, it will be managed according to the Best Management Practices contained in the project Storm Water Pollution Prevention Plan (SWPPP), which the Subcontractor will prepare.

Solid waste, such as disposable sampling equipment or PPE, will be bagged and placed in the roll-off for disposal with the building debris, concrete, or soil.

Liquid waste will be stored in labeled drums inside the building until it can be removed by Clean Harbors for incineration.

General trash (any trash that has not come in contact with PCB materials) will be bagged and disposed of in a municipal waste dumpster.

5.1 Loading Procedures

The impacted soil, concrete, building debris, and solid waste that will be transported by Clean Harbors for disposal will be loaded into either lined roll-offs or lined trucks. Liquid waste drums will be loaded into enclosed trucks (e.g., box trucks). Dust generation will be controlled by spraying loads with water during loading as necessary, limiting the dumping height, and slowly dumping each excavator bucket load. When the trucks or roll-offs have reached their safely allowed maximum capacity as determined by the Clean Harbors on-site coordinator, the material will be covered with a tarp and secured for transportation. Before the trucks leave the Site, Clean Harbors' personnel will inspect the trucks and containers for potential safety hazards.

A small amount of excavated material may fall on the ground during loading. Therefore, the truck loading and staging area surface will be swept. Swept material will be disposed in the same manner as the excavated material.

Trucks will be inspected and cleaned, prior to leaving the Site, of mud or other materials that may need to be removed prior to the trucks entering a public road. Manifests will be completed

(as described in the following section) on site after the waste material has been loaded into the truck.

5.2 Waste Manifests

A waste manifest will be used to track the waste material transport from the point of generation to the point of ultimate disposal. Prior to transporting the waste material off-site, a URS representative (acting as TDCC's agent) will sign each waste manifest. The waste hauler will then sign the manifest and provide one signed copy to the URS representative. URS will maintain a copy of this interim waste manifest for each truckload until the fully signed waste manifest is obtained. The waste manifest must be signed by the receiving facility and returned to URS/TDCC to document proper disposal. The manifest document is to include the following information:

- Name and address of waste generator
- Name and address of waste transporter
- Name and address of disposal facility
- Description of the waste
- Quantity of the waste shipped

5.4 Description of Transport

Waste material will be transported by Clean Harbors. Clean Harbors will be responsible for providing an on-site waste coordinator to work with URS and URS' Subcontractor for roll-off and/or truck loading and removal. The roll-off size and actual truck size and type may vary depending on truck availability at the time of waste material transportation. Trucks will be inspected prior to loading by URS for obvious safety issues and every driver will perform and record daily safety inspections in accordance with Clean Harbors' Policies (included as Attachment B).

The waste material will be transported to an appropriate facility permitted in accordance with 40 CFR 270 and in accordance with ARARs. Disposal facility selection will be confirmed by Clean Harbors based on the ability to accept waste and the availability of transportation at the time of the removal action.

During waste material transport to the disposal facility, dust control measures will be employed to reduce the potential to generate particulates by covering the roll-offs or truck beds securely with tarps. The tarps must be tight-fitting covers and securely fastened prior to leaving the Site. In the event a tarp rips or comes loose during transit, the truck will stop at a safe location and the tarp will be repaired or replaced. Once the tarp repair or replacement and inspection are complete, the truck will proceed on its designated transport route to the disposal facility.

Each truck will be properly placarded and issued a waste manifest that must be signed by the receiving facility and returned to URS/TDCC to document proper disposal. The loaded trucks will comply with federal, state, and local transportation requirements. Weighing loads on a certified scale will be Clean Harbor's responsibility. Disposal quantities shall be based on the difference of weight measurements between the full and empty container. All weights shall be

recorded on the manifest. Waste manifests are usually available on Clean Harbor's website within 48 hours after the receiving facility has accepted the waste.

5.5 Transport Routes

Figure 3 shows the proposed haul routes from the Site to the Grassy Mountain Landfill in Utah for solid waste.

The facility address is listed below:

- Clean Harbors Grassy Mountain Landfill Facility located approximately 3 miles east and 7 miles north of Knolls at Exit 41 off I-80 in Grantsville, Utah (zip code of 84029) with an EPA ID number of UTD991301748.

Liquid waste is planned to be transported by drum to the Aragonite Incineration Facility, Dugway, Utah, operated by Clean Harbors. Figure 4 shows the proposed haul route from the Site to the Aragonite Incineration Facility in Utah. The facility address is listed below:

- Clean Harbors Aragonite Incineration Facility located at 11600 North Aptus Road, Dugway, Utah (zip code of 84022) with an EPA ID number of UTD981552177.

6.0 REQUIRED NOTIFICATIONS BEFORE TRANSPORT

Before any off-site shipment of waste material from the site for disposal that exceeds a total volume of 10 cubic yards (yd^3), TDCC will provide written notification of the shipment to EPA's On-Scene Coordinator (OSC) and to the appropriate state environmental official in the receiving state.

The written notification will include the following additional information:

- The name and location of the facility to which the Waste Material are to be shipped
- The type and quantity of the Waste Material to be shipped
- The expected schedule for the shipment of the Waste Material
- The method of transportation

TDCC will notify the same official in the receiving state of major changes in the shipment plan, such as a decision to ship the waste material to another facility within the same state, or to a facility in another state.

Although hazardous waste shipping is not anticipated at this time, if it becomes necessary, TDCC will notify EPA in accordance with the Settlement Agreement. TDCC will notify EPA before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, and TDCC will obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. TDCC will only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

7.0 TRANSPORTATION PLAN

Clean Harbors will transport and dispose of the impacted soil, concrete and building debris, solid waste, and liquid waste. The Clean Harbors policies are included as Attachment B. The Clean Harbors Transportation Plan contains the following sections and is available from Clean Harbors but not included in this document due to size.

- Section I: In-Transit Emergency Response Procedures
- Section II: Clean Harbors Transportation Telephone Numbers
- Section III: Special State (U.S.) and Province (Canadian) Requirements
- Section IV: Department of Transportation Regulations
- Section V: Driver's Hours of Service Regulations (49 CFR 395)
- Section VI: Clean Harbors Truck-to-Truck Locations
- Section VII: Treatment Storage Disposal Facility Requirements
- Section VIII: Identifying a Hazardous Waste
- Section IX: Hazardous Waste Manifest and Land Ban Restrictions
- Section X: Special Manifests
- Section XI: Clean Harbors Policies
- Section XII: Forms
- Section XIII: Glossary of Acronyms and Commonly Used Terms

8.0 RECORD KEEPING

The following information will be recorded and tracked by the URS representative for each load of waste material transported off-Site.

- Date and time;
- Approximate weight/volume of waste material;
- Information on waste material type; and
- Vehicle identification.

The following transportation documents must be carried with the driver when transporting the waste:

- Waste manifest or proper shipping document identifying the shipment;
- Maps and complete instructions describing the route to be traveled; and
- Special instructions, including emergency procedures and transporter contacts.

The following relevant documentation will be retained in accordance with the requirements of the Settlement Agreement and will be included in the Removal Action Completion Report:

- Copy of TDCC notification to EPA of transport of waste materials >10 cubic yards

- Listing and quantities and types of materials removed off-Site or handled on-Site;
- Discussion of removal and disposal options for those materials;
- Listing of ultimate destination(s) of those materials;
- A presentation of the analytical results of all sampling and analyses performed;
- Other relevant documentation generated during the removal action (e.g. manifests).

9.0 REFERENCES

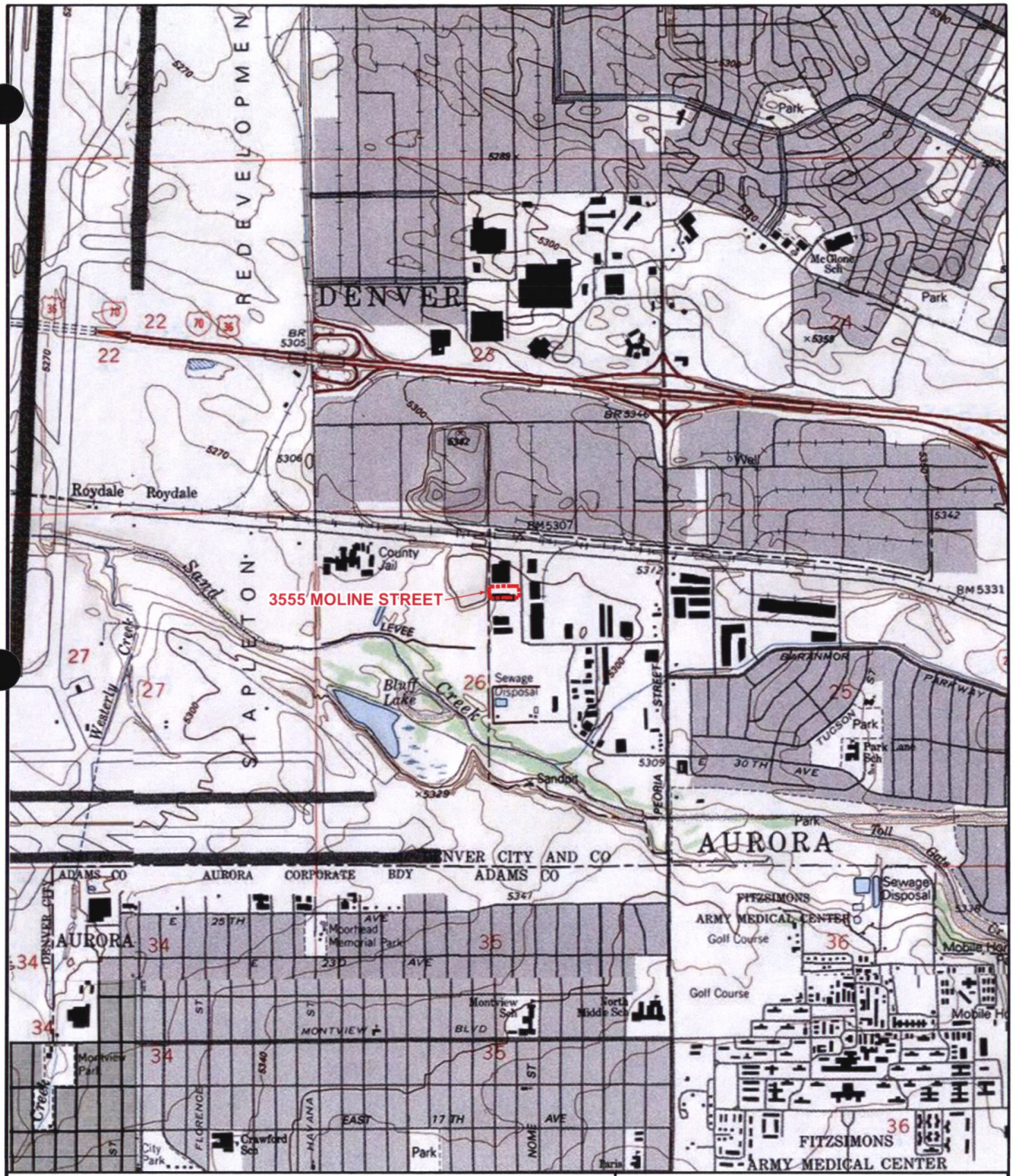
CDPHE. 1993 (November). *Interim Final Policy and Guidance on Management of Investigation Derived Waste (IDW) at RCRA Facilities.*

CDPHE. 2013. (July). *Colorado Hazardous Waste Regulations*. 6 CCR 1007-3.

EPA. 1991 (May). *Management of Investigation-Derived Wastes During Site Inspections*. Office of Research and Development. EPA/540/G-91/009.

EPA. 1992 (April). *Guide to Management of Investigation-Derived Wastes*. Office of Emergency and Remedial Response Hazardous Site Control Division. OSWER Publication Number 9345.3-03FS.

URS Corporation. 2014. Removal Action Work Plan, Moline Street PCB Site, Aurora, Colorado. May 23.



EXPLANATION

Property Boundary

Map Projection:
State Plane Feet, Colorado Central Zone, NAD83.
Basemap Source:
National Geographic Society, i-cubed (2013)

0 2,000 Feet

1 inch = 2,000 feet

N
W E
S

URS

Figure 1 LOCATION MAP

MOLINE STREET PCB SITE
AURORA, COLORADO

PROJECT NO.	DRAWING NO.	DATE
41569671	Fig1_Site_Location.mxd	2/26/14

EXPLANATION

- Property Boundary
- Former Press
- Press Pit
- Unidentified Feature
- Surveyed Feature
- Fence

Map Projection:
State Plane Feet, Colorado Central Zone, NAD83.
Aerial Photo Basemap Source:
Copyright 2013 Esri, DeLorme, NAVTEQ, TomTom

100 0 100 Feet

1 inch = 100 feet

N
W E
S

URS

Figure 2 SITE VICINITY

MOLINE STREET PCB SITE
AURORA, COLORADO

PROJECT NO.	DRAWING NO.	DATE
41569671	Fig2_Site_Vicinity.mxd	4/28/14